

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Shigeyasu Morihiro et al. Art Unit : 1713
Serial No. : 10/669,860 Examiner : Satya B. Sastri
Filed : September 24, 2003 Conf. No. : 4396
Title : Thickener For Water-based Vibration Damper

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.132

I, Takahiro Miwa, declare:

1. I am an inventor of the subject matter described and claimed in the above-identified application, which relates to a vibration damping composition and a method for increasing viscosity of a vibration damping composition.

2. I understand that Koger et al., U.S. Patent 6,646,058 ("Koger") teaches a dispersant latex ("Koger latex").

3. I myself or others under my supervision conducted the following two experiments:

Experiment I

A latex was synthesized following exactly the same conditions described in Example 3 of Koger (column 12, lines 29-59). Table I below presents various properties of the resultant latex ("reproduced Koger latex") and those of the Koger latex.

Table I

	Reproduced Koger latex (synthesized in Experiment I)	Koger Latex (prepared by Koger et al.)
Macromonomer content	40 wt. % ¹⁾	40 wt. % ¹⁾
Non volatile content	23 wt. % ²⁾	25.1 wt. %
pH	2.5	2.6
viscosity	11 cps ³⁾	12.8 cps ³⁾
Molecular weight	9,800 ⁴⁾	n/a

1) based on respective amounts of monomers set forth at column 12, lines 44-47 of Koger

2) dried at 150°C for 20 minutes

3) measured by a Brookfield viscometer using No. 1 spindle at 60 rpm

4) measured by gel permeation chromatography

As shown in Table I, the properties of the reproduced Koger latex are substantially the same as those of the Koger latex. In other words, I successfully reproduced the Koger latex. In addition, Table I shows that the polymer in the reproduced Koger latex had a molecular weight of 9,800.

Experiment II

The reproduced Koger latex obtained in Experiment I was tested for its drying property and loss factor by methods described in Example 4 of the present application. See page 27, line 28 through page 30, line 19. Table II below presents the drying property and loss factor of the reproduced Koger latex and those of the Example 4 thickener emulsion that contains the thickener polymer prepared in Example 2 of the application.

Table II

		Reproduced Koger latex	Example 4 thickener emulsion
Drying property	Sheet thickness: 1.5 mm	Poor [†]	Excellent [†]
	Sheet thickness: 3.0 mm	Poor	Excellent
	Sheet thickness: 4.5 mm	Poor	Excellent
Loss factor		Impossible to determine	0.36
Macromonomer content		40 wt. %	10 wt. % [‡]

[†]see definitions of "poor" and "excellent" at page 29, lines 3-9 of the specification

[‡] based on respective amounts of monomers set forth at page 27, lines 8-13 of the specification

4. Table II clearly shows that the reproduced Koger latex containing a polymer with a relatively high content (40 wt.%) of macromonomer did not have the desirable properties for damping vibration. Of note, as the shape of the 3.0 mm sheet prepared from the reproduced Koger latex degrades, its loss factor could not be measured.

In comparison, the Example 4 thickener emulsion containing a thickener polymer with a lower content (10 wt.%) of macromonomer exhibited excellent properties for damping vibration.

5. I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18

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of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Date: _____

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